

**TAXONOMY OF THE *CROTON TEXENSIS* COMPLEX
(EUPHORBIACEAE)**

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ABSTRACT

Croton texensis (Klotzch) Muell. Arg. is treated as having two allopatric, presumably intergrading, infraspecific categories: var. **texensis**, largely confined to the south-central U.S.A., and var. **utahensis** Cronq., confined to the southwestern U.S.A. and closely adjacent Mexico. A key to the taxa is provided, along with a map showing their distributions. *Phytologia* 94(1): 35- 39 (April 2, 2012).

KEY WORDS: Euphorbiaceae, *Croton*, *C. texensis*

CROTON TEXENSIS (Klotzsch) Muell. Arg., in DC. Prodr. 15(2): 692. 1866.

TYPE: "On the sand beaches of the Great Salt river, Arkansas," *Nuttall s.n.* (holotype G). The type of this name is probably from along the Salt Fork of the Arkansas River in north-central Oklahoma.

Hendecandra texensis Klotzsch, Wiegmann Archiv. Naturgeschichte 7: 252. 1841.

Type: TEXAS. *Drummond* (w/o additional data, Johnston 1959).

Croton muricatum Nutt., Trans. Amer. Phil. Soc. n.s. 5: 173. 1835 [non Vahl ex Geiseler, 1807].

Correll and Johnston (1970) provided a detailed description of *C. texensis* and this need not be enlarged upon here except to note that their descriptive account includes both of the varieties discussed herein, the two differing as follows:

1. Mature capsules to some extent warty, often markedly so, the warts usually tufted with stellate hairs; upper leaf surfaces usually densely stellate-pubescent; central U.S.A. from Nebraska and Wyoming to south-central Texas.....var. **texensis**
1. Mature capsules to some extent warty; upper leaf surfaces glabrous to moderately endowed with stellate hairs; Utah, Arizona, New Mexico, western Texas and adjacent Mexico.....var. **utahensis**

var. **texensis**

Var. *texensis* is an exceedingly common taxon, occurring predominantly in alluvial sands along streams or upon well-developed dunes. It is consistently reported as an erect annual herb to 1 m tall, becoming more robust as it approaches its more southern distribution. Correll and Johnston (1970) did note the capsules to be "usually slightly warty," but did not emphasize their distinctive presence, as done here. Var. *texensis* appears to intergrade with the more southwestern var. *utahensis* in northeastern New Mexico and the Panhandle region of Texas, hence their treatment as varieties.

Johnston (1959), in an excellent treatment of the complex, noted, "Many of the plants of the western portion of the range are of the form which has been called *C. virens* and *C. luteovirens*," but, Johnston thought these unworthy of recognition, at least at the specific level. He did, however, comment "*C. texensis* intergrades with *C. Parksii* (sic) and that the latter "might be reduced to synonymy under *C. texensis*, as has *C. virens*, or to varietal status." In my opinion, *C. parksii* is much better circumscribed by morphological characters than var. *utahensis*, but it does appear to grade into the var. *texensis*, but less perceptively so than does var. *utahensis*.

A single tetraploid chromosome count of $n = 28$ pairs has been reported for this taxon from the Panhandle of Texas (Randall Co., Bacon & Hartman 1378, TEX). Two diploid counts of $n = 14$ pairs have been reported for the var. *utahensis*, as noted below.

var. **utahensis** Cronq., Great Basin Naturalist 52: 76. 1992.

TYPE: UTAH. Juab Co.: sand dunes, ca 18 km airline N of Lynndyl, ca 1500 m, 28 Jul 1983, *Cronquist & Thorne 11839*. (holotype: US, isotype: UTC!).

Croton virens Muell. Arg., *Linnaea* 34: 142. 1865.

TYPE: El Paso Co.: "near El Paso," 1851-52, *Wright 1799* (B?) (Johnston 1959).

Croton luteovirens Woot. & Standl., *Contr. U.S. Nat. Herb.* 16: 145. 1913.

TYPE: New Mexico. Grant Co.: Rio Gila, 15 Aug 1902, *Wooton s.n.* (holotype US).

As noted by its creator (Cronquist 1992), this taxon differs from var. *texensis* only by having leaves with their upper surfaces glabrous, but he does note that some of these may have "at least a few stellate hairs (though these may eventually fall off)." He further states "The otherwise fairly widespread var. *texensis*, with the upper surfaces of the leaves evidently (and more or less persistently) stellate-hairy, is largely allopatric with var. *utahensis*, barely entering Utah in San Juan Co." Clearly Cronquist did not view *C. texensis* from throughout its range, confining his observations to Utah plants. At least he missed the warty capsules of var. *texensis*, as emphasized herein. A weak case might be made for the recognition of a var. *utahensis* with glabrous upper leaves, which grades into some newly created variety in the southwestern U.S.A. and Mexico, having pubescent leaves; however, leaf pubescence is so variable within the complex concerned, their seems little justification for such recognition (note that in the specimens cited below, Barkley collected, within the same population in Grant Co, N.M., both pubescent and markedly glabrous forms).

Occasional plants may be completely glabrous, or nearly so (e.g., *Barkley 14670B*, growing with typical form, *Barkley 14670*).

Two diploid counts of $n = 14$ pairs have been reported for this taxon (Eddy Co., N.M., *Hartman & Turner 3438*; and Samalayuca dunes, Chihuahua, Mex.; *Powell 2449*; vouchers at TEX).

REPRESENTATIVE SPECIMENS: **MEXICO: CHIHUAHUA.** Dune sands of Samalyaca (sic), 25 Oct 1966, *M.F. Roberty s.n.* (TEX); plus 15 or more collections from or near this site on file at LL-TEX.

SONORA. Mpio. de Guaymas: 1 km NE of Torim, Rio Yaqui valley, 10 m, 15 Dec 1988, *Felger 88-596* (TEX); S of Nogales "at km. 2354," 23 Jul 1959, *Gentry 17748* (LL); 6 mi S of Nogales, 7 Aug 1965 (TEX); Onavas, 10 Jul 1969, *Pennington 4* (TEX); Onavas, 550 ft, Aug 1968, *Pennington 335* (TEX); 1.5 km E of Tonichi, 180 m, 12 Feb 2001, *Van Devender 2001-54* (TEX); Colonia Morelos, 2600 ft, 24-27 Aug 1941, *White 4144* (LL); 10 mi E of Imuris, 7 May 1948, *Wiggins 11658* (TEX).

U.S.A.: ARIZONA. Apache Co.: Sanders, 5500 ft, 14 Aug 1973, *Moldenke 27730* (LL). **Gila Co.:** Pinal Mts., 6300 ft, 6 Aug 1968, *Gentry 2268* (TEX). **Maricopa Co.:** N of Winkelman, 5000 ft, 16 Aug 1973, *Keil 301* (TEX). **Navajo Co.:** "Mile-315 along US-40 east of Holbrook," 5400 ft, 25 Aug 1993, *Helmkamp 3-5* (TEX). **Pinal Co.:** Gila River at Kearny, 6 Jul 1968, *Crutchfield 3272* (TEX). **Santa Cruz Co.:** Nogales, 28 Jun 1967, *Moldenke 1858* (LL).

NEW MEXICO: Catron Co.: 4 mi W of Alma, 5295 ft, 5 Jul 1948, *Doolittle 11* (TEX). **Chaves Co.:** 30 mi E of Roswell, 2 Aug 1960, *Barkley & Davidson 866* (LL). **Dona Ana Co.:** sandy soil near El Paso, Tex, 20 Jul 1946, *Tharp et al. 36302* (TEX). **Eddy Co.:** 10 mi E of Loving, 20 Jul 1972, *Hartman 3438* (TEX). **Grant Co.:** 16 mi WNW Silver City, 24 Sep 1944, *Barkley 14644B* (TEX). **Guadalupe Co.:** Santa Rosa, 3 Sep 1929, *Whitehouse s.n.* (TEX). **Rio Arriba Co.:** Ojo Caliente, 23 Aug 1963, *Brown s.n.* (TEX). **Santa Fe Co.:** Sangre de Cristo Mts., 7200 ft, 14 Aug 1963, *Bennett 8267* (TEX).

As an aside, I am pleased to note that a plant from Chihuahua (Samalayuca dunes, cf. above citation), reported by Henrickson (2010) as possibly *C. bigbendensis* B.L. Turner, this disputed by Turner (2011), is in fact *C. t.* var. *utahensis*.

ACKNOWLEDGEMENTS

I am grateful to my colleagues Mike Powell and Guy Nesom for reviewing the paper, and to the following herbaria for the loan of specimens (ARIZ, ASU, LL-TEX, UTC).

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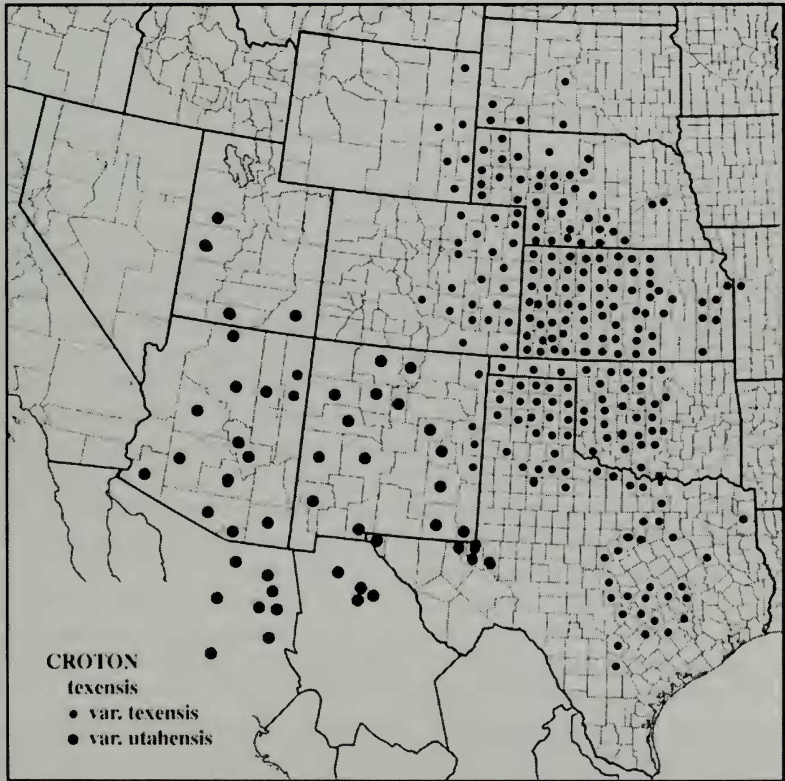


Fig. 1. Distribution of *Croton texensis*.